

REMARKS

Summary of the Office Action & Formalities

Claims 1, 3-7 and 9-18 are all the claims pending in the application. Applicant is amending claims 1, 3, 4, 7, 9, 10, 16, 17, and 18, canceling claims 2, 8, 13 and 14, and adding claims 19-36. No new matter is added.

Submitted herewith is a Request For Continued Examination, an Information Disclosure Statement, an Excess Claim Fee Letter with fee, and a Petition for Extension of Time with fee.

Applicants respectfully request that the Examiner approve the formal drawings filed December 4, 2001.

In response to Applicant's Amendment filed May 14, 2003, the Examiner has withdrawn the rejection of claims 8-12 under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 3, 4, 16, 17, and 18 are amended to correct minor typographical errors discovered by the Applicant, and to avoid redundant language in the case of claims 3 and 4. These amendments do not alter the scope of these claims.

The Examiner has also withdrawn the rejection of claims 1-12 as allegedly being anticipated by both Kusano et al. (USP 6,099,414) and Minabe (USP 5,961,394). However, the Examiner now rejects *pending* claims 1, 3-7, 9-18 under 35 U.S.C. § 103(a) as being unpatentable over Minabe (5,961,394).

Applicant respectfully traverses.

Claim Rejections - 35 U.S.C. § 103

In rejecting claims 1, 3-7 and 9-18 over Minabe (5,961,394), the grounds of rejection state:

Regarding claims 1, 7, 13-16, Minabe discloses a wood-type, golf club head comprising a shaft 26 attached to metal head 12 wherein the metal head (Figure 1) including a plurality of pieces (upper surface 20, side periphery bottom surface 22, face member 10) are welded together by laser welding (Col. 4, lines 1-14). With respect to the manufacturing technique of the metal parts, Minabe discloses the face member 10 is formed by forging process but does not disclose other club parts are formed by forging process. Official Notice is taken that it is well-known in the art to fabricate club parts by casting, pressing, stamped [sic] and forging and it would have been obvious to do so here to facilitate assembly. Regarding claims 3-4 and 9-10, Minabe discloses a face member 10 with thickness ranging from 2.5-3.5mm and head body 12 with thickness about 1.2mm (Col. 3, lines 25-37), and different alloy materials can be welded together. In addition, Official Notice is taken that it is well-known in the art to weld dissimilar metals together to optimize mass distribution and structural strength and it would have been obvious to do so here to gain the same benefits. Regarding claims 5-6 and 11-12, Minabe's club head inherently has at least 60% of the same material or at most thru [sic] routine optimization and with difference in melting points between metal pieces less than 250° or less. Regarding claims 17-18, Official Notice, as best understood by examiner, is taken that it is known in the art to fabricate side member 102 into two pieces (inner and outer piece) and crown member 202 into two pieces (inner and outer piece) to improve mass distribution, structural strength, and center of gravity, and enlarged sweet spot, it would have been obvious to so [sic] here to gain the above benefits.

Office Action at page 2. Applicant respectfully disagrees.

As stated in the Manual of Patent Examining Procedure ("MPEP"):

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. . . . Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

MPEP § 2143. Applicant submits that the current grounds of rejection do not meet these criteria.

Beginning with the requirement that the prior art reference must teach or suggest all the claim limitations, Minabe does not teach or suggest metal pieces that “appear on a common surface of the head and are fixed together by laser welding,” as recited in independent claim 1 prior to this Amendment. Likewise, Minabe does not teach or suggest metal pieces that “appear on striking face of the head and are fixed together by laser welding,” as recited in amended claim 1.

Nor does Minabe teach or suggest a “compounded metal plate . . . fabricated by fixing together by laser welding metal pieces that appear on a common surface of the head,” as recited in independent claim 7 prior to this amendment, let alone metal pieces that appear on the striking face of the head as recited in amended claim 7. When using a plurality of metal pieces that are of different metals for a common surface, the pieces provide a visibly aesthetic effect and permit one to modify the performance of the golf club head.

Referring to the exploded view in Fig. 1 of Minabe, this reference discloses a golf club having a single piece face member 10 welded to the head body 12 along the fixing portion 14. See Minabe at column 2, lines 54-65. The head body 12 is made of two parts: an upper surface

“flat crown” 20 and a side peripheral bottom surface 22. See Minabe at column 2, line 66 to column 3, line 1.

In the grounds of rejection quoted above, the Examiner appears to rely on these three parts (i.e., face member 10, upper surface 20, and peripheral bottom surface 22) to argue that Minabe discloses the claimed feature of fixing together metal pieces on a common surface of the head by laser welding. Applicant notes that the expression “common surface” would be understood by one skilled in the art to mean one of a face surface, a sole surface, a crown surface, and a side surface. Note, for example, the following disclosure in Applicant’s specification:

In the present invention, metal pieces appearing on a common surface of the golf club head can be fixed together by means of laser welding (see FIGS. 1 and 2, which will be described later). In such a case, examples of such a common surface include a face surface, a sole surface, a crown surface, and a side surface.

Specification at page 5, lines 18-22.¹ See also, Applicant’s Specification at page 4, lines 11 et seq., which refers to a “compounded metal plate.” Furthermore, as amended, claims 1 and 7 explicitly require the that the plurality of pieces appear on the striking face of the golf club.

The disclosure in Minabe upon which the Examiner relies discloses the contrary. Rather than disclosing a plurality of pieces welded on a common surface, let alone the striking face in

¹ Applicant is aware of its reference at page 1, lines 8-10 of the specification that the face member, sole member, and hosel member are referred to as metal pieces. However, one skilled in the art would not have applied this characterization to the embodiment covered by the claim language, which explicitly requires the plurality of metal pieces to appear on a common surface (or striking face as recited in amended claims 1 and 7), and in view of the disclosure of the specification when taken as a whole.

particular, Minabe explicitly discloses the use of a single piece for each surface. As such, Minabe teaches away from Applicant's claimed invention. See, In re Hedges, 228 USPQ 685, 687 (Fed. Cir. 1986) (concluding that prior art references that "teach away" from a claimed invention provide "strong evidence of unobviousness"). See also MPEP § 2141 (mandating that "the references must be considered as a whole," and, therefore, requires the Examiner to consider and confront those passages of Minabe that lead away from the claimed invention).

Furthermore, by joining the metal pieces together using a *high energy welding*, such as *laser welding*, deterioration of the metal pieces at the weld joint is minimized or eliminated, thereby ensuring a smooth, uninterrupted outer common surface. The compound part is then suitable for post-machining, such as a plastic working. By laser welding pieces to form an outside common surface followed by plastic working, such as press-forming, these pieces provide a very flat and durable member. In comparison, if conventional welding techniques are used to weld pieces together, the resulting compound structure will not have a smooth, uninterrupted surface and would not be as durable.

For at least the foregoing distinctions, the Examiner is kindly requested to reconsider and withdraw the rejection of claims 1 and 7 and dependent claims 3-6, 9-12 and 15-18.

In addition, with respect to claims 3 and 9, Applicant disagrees that the disclosure in Minabe of "a face member 10 with thickness ranging from 2.5-3.5mm and head body 12 with thickness about 1.2mm (Col. 3, lines 25-37)" teaches metal pieces having different thicknesses fixed together on a common surface by means of laser welding the features. In fact, Minabe would

discourage one of skill in the art from constructing such a club head, since it discloses that the single piece face member has a certain thickness range, including a thin-walled portion which is formed by cutting, not by the assembly of multiple pieces. See, e.g., Minabe at column 4, lines 32-47. Again, the Applicant cautions the Examiner against construing the language “common surface” to include multiple surfaces (or faces/sides) of a golf club head. Such an unreasonably broad construction violates Applicant’s own definition provided in the specification and would not have been adopted by one skilled in the art.

For similar reasons, Applicant disagrees that any disclosure in Minabe of different alloy materials for the face member and the head body teaches or suggests metal pieces made of different metals fixed together on a common surface by laser welding as required by claims 4 and 10.

Furthermore, Applicant traverses the Examiner’s “Official Notice” “that it is well-known in the art to fabricate club parts by casting, pressing, stamped [sic] and forging and it would have been obvious to do so here to facilitate assembly.” See MPEP § 2144.03 (permitting the applicant to traverse an examiner’s reliance on Official Notice and force the examiner to cite a reference in support of his or her position). Specifically, even if, assuming for the sake of argument alone, it were “well-known in the art to fabricate club parts by casting, pressing, stamped [sic] and forging,” this *generalized* knowledge would not teach or suggest the particular assembly on the club striking face of metal pieces made of different metals. The USPTO is held to a rigorous standard when trying to show that an invention would have been obvious in view of the prior art. See, In Lee, USPQ2d 1430, 1433 (Fed. Cir. 2002), citing, e.g., In re Dembiczak,

175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). In the instant case, the grounds of rejection should not be able to rely on Official Notice to circumvent this rigorous standard (also summarized in the MPEP's requirement for a showing that all the criteria of obviousness are met (MPEP § 2143)). Accordingly, the Examiner is requested to cite to an actual prior disclosure or withdraw this rejection.

With respect to claims 5, 6, 11, and 12, again, Applicant maintains that the grounds of rejection cannot rely on the disclosure in Minabe pertaining to the metal composition of different surfaces of the golf club head as teaching or suggesting the same with respect to a plurality of metal pieces on a common surface (e.g., the striking face as recited in claims 1 and 7) of the golf club head.

Finally, with respect to claims 17 and 18, again, the Applicant traverses the Examiner's "Office Notice" that "it is known in the art to fabricate side member 102 into two pieces (inner and outer piece) and crown member 202 into two pieces (inner and outer piece) to improve mass distribution, structural strength, and center of gravity, and enlarged sweet spot, it would have been obvious to so [sic] here to gain the above benefits." By taking "Official Notice," the Examiner concedes that Minabe fails to disclose this feature. Moreover, since Minabe explicitly teaches having each surface made from a single piece of metal, the reference would teach away from having metal plates on striking surface that include an inner piece and an outer piece surrounding the inner piece.

New Claims

For additional claim coverage, Applicant is adding new claims 19-36. Claims 19 and 20 are believed to be allowable at least by reason of their respective dependencies. Claim 21 recites that the plurality of pieces appear on an outside common surface of the golf club head, and is, therefore, believed to be allowable for reasons similar to those discussed above with respect to claim 1. Claim 22 depends from claim 21 and is, therefore, believed to be allowable as well. Claim 23 depends from claim 1 and is allowable by reason of its dependency.

Claims 24-32 recite metal pieces that appear on an outside surface of the crown, side wall, or sole member and are fixed together by welding. These claims are allowable for reasons similar to those discussed above with respect to claim 1.

Finally, claims 33-36 depend from claim 1 or 21 and further recite that the laser welded pieces undergo post-machining or press forming. These claims are allowable at least by reason of their respective dependencies.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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AMENDMENT UNDER 37 C.F.R. § 1.114

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The USPTO is also directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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